

REMARKS

Applicant has now had an opportunity to carefully consider the Examiner's comments set forth in the Office Action of March 14, 2007.

In this response, Applicant amended selected claims to provide a more complete scope of protection for the present invention and present clarifying remarks believed to address the Examiner's rejections and place the claims in condition for allowance.

Reexamination and reconsideration are respectfully requested.

I. 35 U.S.C. §103(a) Rejections

Claims 1, 7-14 and 23-29 were rejected under 35 U.S.C. §103(a) as being unpatentable over Steinmetz et al. (U.S. Patent Application Publication No. 2004/0021751) ("Steinmetz") in view of Jones et al. (U.S. Patent Application Publication No. 2002/0191059) ("Jones").

With respect to claim 1, as amended, Applicant respectfully submits that the claimed subject matter differs from Steinmetz in view of Jones.

In particular, claim 1, as amended, calls for an ink container comprising a housing having a chamber formed therein for receiving ink and a surface including an outlet passage communicating with the chamber and through which ink is dispensed. An air impermeable, non-porous seal member is received in the outlet passage. The seal member comprises a substantially V-shaped first surface having a first vertex and a substantially V-shaped second surface having a second vertex. The first surface faces away from the second surface. The surfaces are on opposite exterior sides of the seal member. The surfaces are adapted to be compressed when the seal member is installed in the outlet passage.

In contrast, Steinmetz discloses a sealing member 260 of a fluid interface 158 of an ink container 120. The sealing member includes a ball sealing portion 262 that is shaped to mate with a ball-shaped plug member 268. The sealing member 260 also includes a needle sealing portion 264 opposite of the ball sealing portion. As shown in Figure 17-19 of Steinmetz, no exterior surface of the seal member is substantially V-shaped having a vertex. Rather, sealing member 260 is cylindrical in shape. More

particularly, the alleged first and second V-shaped sections of Figure 17 reproduced on page 3 of the Office Action do not face away from each other. Rather, the first and second sections face towards each other. As such, the first and second sections identified in Figure 17 are located on an interior surface of the sealing member 260, not an exterior surface. Accordingly, Steinmetz, alone or as modified by Jones, fails to teach or even remotely suggest the limitations of amended claim 1. Therefore, it is respectfully submitted that amended claim 1, and claims 3-14 dependent or ultimately dependent thereon, define over the prior art.

Regarding claim 12, as amended, Applicant submits that Steinmetz, in view of Jones, does not teach the seal member including a ring shaped portion and a thin membrane extending across the first surface of the ring shaped portion. Rather, Figures 17-19 of Steinmetz show a cylindrical shaped sealing portion 260 and Figure 3 of Jones shows a cylindrical shaped seal member 29. Therefore, it is respectfully submitted that amended claim 12 now defines over the art of record and is in condition for allowance. Moreover, amended claim 12 depends from claim 1 and is in condition for allowance.

Regarding claim 13, as amended, Applicant submits that Steinmetz, in view of Jones, does not teach the seal member having a substantially disk shape including a tube shaped portion having the substantially V-shaped first and second surfaces. The Examiner concedes that Steinmetz fails to teach a disk shaped seal member (see Office Action, page 4). For that limitation, the Examiner relies on the teachings of Jones. However, Jones shows a cylindrical shaped seal member 29. Thus, Jones fails to teach or remotely suggest the claimed tube shaped portion. Therefore, it is respectfully submitted that amended claim 13 now defines over the art of record and is in condition for allowance. Moreover, amended claim 13 depends from claim 1 and is in condition for allowance.

Regarding claim 14, as amended, Applicant submits that Steinmetz, as modified by Jones, does not teach the first vertex of the first surface of the seal member extending past an outer terminal end of the outlet passage and the second vertex of the second surface of the seal member engaging an inner wall of a counterbore formed at

the outer terminal end. The Examiner concedes that Steinmetz fails to teach a counterbore located at an outer terminal end of the outlet passage (see Office Action, page 4). For that limitation, the Examiner relies on the teachings of Jones. As indicated previously, neither Steinmetz nor Jones teaches a seal member having the claimed V-shaped first and second surfaces. Further, assuming, *arguendo*, that the Steinmetz sealing portion 260 can be received in the Jones counterbore, the identified first and second V-shaped sections of the sealing portion 260 (see Figure 17 of Steinmetz reproduced on page 3 of the Office Action) could not extend past the counterbore terminal outer end and engage a counterbore inner wall. Again, the identified first and second V-shaped sections are located on an inner surface of the cylindrical shaped sealing portion 260. Therefore, it is respectfully submitted that amended claim 14 now defines over the art of record and is in condition for allowance. Moreover, amended claim 14 depends from claim 1 and is in condition for allowance.

With respect to claim 23, as amended, Applicant respectfully submits that the subject matter differs from Steinmetz in view of Jones.

Claim 23, as amended, now calls for a seal member for an ink container comprising a lower surface and an upper surface located on an opposite side of the seal member from the lower surface. The upper surface faces away from the lower surface. An outer sidewall extends between the lower and upper surfaces. The outer sidewall has a single tapered surface extending between and connecting the lower surface and the upper surface. The upper surface has a larger diameter than the lower surface. The seal member has a substantially disk shape. The lower and upper surfaces each comprises a raised portion extending across the surfaces.

The Examiner states that the wall of the fluid connector 202 is the claimed tapered outer side wall. Applicant assumes that the Examiner refers to the surfaces of inner walls of the seal member 260. However, Steinmetz fails to show the seal member 260 including an outer sidewall having a single tapered surface extending between and connecting the lower surface and the upper surface. In fact, the Examiner concedes that no single tapered wall is shown in Steinmetz. Specifically, the Examiner states that the alleged side wall of Steinmetz has "tapered surfaces." Further, Steinmetz fails to

teach or remotely suggest upper and lower surfaces that face away from each other and include raised portions extending across the surfaces. Accordingly, Steinmetz as modified by Jones fails to teach or even remotely suggest the limitations of amended claim 23. Therefore, it is respectfully submitted that amended claim 23, and claims 24-29 dependent or ultimately dependent thereon, define over to prior art.

Regarding claim 24, and for the same reasons set forth above with respect to claim 1, Steinmetz fails to teach upper and lower surfaces that face away from each other and are substantially V-shaped. Therefore, it is respectfully submitted that claim 24 now defines over the art of record and is in condition for allowance. Moreover, claim 24 depends from claim 23 and is in condition for allowance.

Regarding amended claim 29, Steinmetz fails to teach the upper and lower surfaces, the tapered outer sidewall and an inner sidewall of the seal member together forming a generally toroidal-shaped portion. Again, Steinmetz simply shows a cylindrical shaped sealing portion 260. Therefore, it is respectfully submitted that amended claim 29 now defines over the art of record and is in condition for allowance. Moreover, amended claim 29 depends from claim 23 and is in condition for allowance.

Claims 3, 5 and 6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Steinmetz and Jones and further in view of Putman et al. (U.S. Patent Application Publication No. 2003/0081085) ("Putman").

Claim 3 has been amended to recite a cap member having a through hole and a recess for receiving the outlet passage. With respect to claims 3, 5 and 6, Applicant submits that Steinmetz as modified by Jones and Putman fails to teach or even remotely suggest a seal member adapted to be linearly compressed between a cap and an outlet passage of an ink container housing. Conversely, and as indicated above, Steinmetz discloses sealing members 260 positioned in respective outlet passage of fluidic interfaces 156 and 158 of the ink container 120. The sealing member includes a ball sealing portion 262 that is shaped to mate with a ball-shaped plug member 268. As shown in Figure 18 of Steinmetz, a spring member 266 biases the plug member against the ball sealing portion to establish a fluid tight seal.

First, the plug member is not a cap member having an opening through or a recess for receiving the outlet passage. Second, the seal member is not linearly compressed between the plug member and the outlet passage. Finally, because the needle sealing portion 264, which is opposite of the ball sealing portion, is exposed and each fluidic interface includes a surrounding flange (see Figure 14 of Steinmetz), the seal member cannot be linearly compressed by the Putman cap 80. Again, as indicated above, the cap 80 is connected to an outside wall of the chimney 44 of the outlet port 40. Such a cap is incapable of linearly compressing the Steinmetz sealing member 260. Therefore, it is respectfully submitted that claims 3, 5 and 6 define over the art of record and are in condition for allowance.

Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Steinmetz and Jones and further in view of Qingguo et al. (U.S. Patent Application Publication No. 2003/0128257) ("Qingguo") and Putman.

With respect to claim 4, Applicant respectfully submits that the claimed subject matter differs from Steinmetz and Jones in view of Qingguo and Putman. Specifically, claim 4 requires that an outer terminal end of the outlet passage of the ink container housing comprise a generally triangular-shaped rib extending at least partially along a circumference thereof for contacting and thermally bonding the cap to the outlet passage.

The Examiner concedes that Steinmetz fails to teach the outlet passage of the ink container housing comprising a rib for contacting and thermally bonding the cap to the outlet passage (see Office Action page 7). For that limitation, the Examiner relies on the teachings of Qingguo and Putman. However, Applicant respectfully submits that neither Qingguo nor Putman teaches or even remotely suggests a generally triangular-shaped rib extending at least partially along a circumference of an outer terminal end of an outlet passage for contacting and thermally bonding a cap to the outlet passage.

The Examiner references Figure 7A of Qingguo as showing the claimed rib. Applicant submits no such rib is shown on the outer terminal end of the outlet passage of the ink container. With reference to Figure 2A of Putman, Putman teaches an outlet port 40 which depends from a bottom wall of the ink tank cartridge housing 10. The

outlet port comprises a cavity or opening 42 through a pipelike member or chimney 44 which extends from the bottom wall of the housing. The opening is in communication with the chimney through an opening 36. A plurality of longitudinal ribs 46 is located along an outside wall of the chimney. A cap 80 is cured onto the outer end of the chimney, such as by ultrasonic welding. A periphery wall 86 of the cap includes a plurality of slots 88 that align with and receive the ribs 46 extending radially outward from the ink outlet port. The cap is then ultrasonically welded to the outlet end of the chimney. Thus, Qingguo and Putman both fail to teach or even remotely suggest a generally triangular-shaped rib extending at least partially along a circumference of an outer terminal end of an outlet passage. Therefore, it is respectfully submitted that claim 4 now defines over the art of record and is in condition for allowance. Moreover, claim 4 depends from claim 1 and is in condition for allowance.

Claims 16, 17 and 19-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Qingguo in view of Putman.

With respect to claim 16, as amended, Applicant respectfully submits that the claimed subject matter differs from Qingguo in view of Putman. Claim 16 recites a method of sealing an outlet port of an ink container. A generally annular-shaped seal member is inserted into a counterbore of the outlet port formed at an outer terminal end portion of the outlet port. The seal member includes first and second opposite facing surfaces. A cap member including a through hole is placed over the outer portion of the outlet port. The first and second surfaces of the seal member are linearly compressed between the cap and the outlet port. The cap member is then welded to the outlet port.

In contrast, as shown in Figure 15 of Qingguo, Qingguo teaches a valve 30 located in a sinking or recessed part 408 of a bottom wall of an ink cartridge. A valve sealing device 340 seals a supporting head portion 330 of the valve. Qingguo fails to teach a seal member inserted into a counterbore formed at an outer terminal end portion of the outlet port. The Examiner identifies the valve 30 as the claimed seal member (see Office Action, page 8). However, the valve 30 is located in the recessed part 408 located above the outlet of the ink chamber 402. Qingguo also fails to teach a cap member including a through hole placed over the outer portion of the outlet port.

The Examiner identifies the valve sealing device 340 as the claimed cap member. However, the valve sealing device is not placed over the outer portion of the outlet port of the cartridge. As shown in Figure 15, the sealing device is located in the recessed part 408. As such, Qingguo also fails to teach linear compressing of the seal member between a cap member placed over the outlet port and the outlet port.

Further, the Examiner concedes that Qingguo fails to teach the welding of a cap member to the outlet port of the ink container (see Office Action page 8). For that limitation, the Examiner relies on the teachings of Putman. However, Applicant respectfully submits that Putman teaches a cap 80 ultrasonically welded onto an outer end of a chimney 44 which extends from a bottom wall of an ink tank cartridge housing 10. Thus, assuming, *arguendo*, that the Putman cap can be welded to the outer end of outlet port of the Qingguo ink cartridge, the cap would not linearly compress the valve 30, since it would be spaced therefrom. Accordingly, Qingguo as modified by Putman fails to teach or even remotely suggest the limitations of amended claim 16. Therefore, it is respectfully submitted that claims 16, 17 and 19-22 dependent or ultimately dependent thereon, define over the prior art.

Regarding claim 17, as amended, Applicant submits that Qingguo fails to teach or remotely suggest the first and second oppositely facing surfaces of the seal member are substantially V-shaped. As shown in Figure 6 of Qingguo, the valve 30 does not comprise the claimed V-shaped surfaces. As such, Qingguo fails to teach substantially V-shaped surfaces contacted by the cap member and the outer terminal end portion of said outlet port during compression. Therefore, it is respectfully submitted that amended claim 17 now defines over the art of record and is in condition for allowance. Moreover, amended claim 17 depends from claim 16 and is in condition for allowance.

Regarding amended claim 22, Qingguo as modified by Putman fails to teach or remotely suggest the seal member having a substantially disk shape including a ring shaped portion extending about a peripheral of the thin membrane. Therefore, it is submitted that amended claim 22 is in condition for allowance.

Regarding claim 19, and for the same reasons set forth above with respect to claim 4, Applicant submits that Qingguo and Putman fail to teach a triangular-shaped rib

located on an outer terminal end portion of an outlet passage which contacts the cap.
Therefore, it is submitted that amended claim 19, which depends from claim 16, defines
over the art of record and is in condition for allowance.

CONCLUSION

All formal and informal matters have been addressed. For the reasons detailed above, it is respectfully submitted all claims remaining in the application are now in condition for allowance.

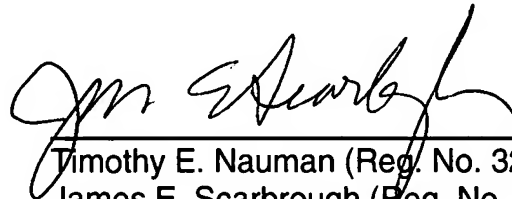
No additional fee is believed to be required for this Amendment. If, however, a fee is due, the Commissioner is authorized to charge our Deposit Account No. 06-0308.

In the event the Examiner believes a telephone call would expedite prosecution, he is invited to call the undersigned.


Respectfully submitted,

FAY SHARPE LLP

Date: 6/11/07



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